

No. 4.— *Diagnoses of new American Arachnida.*

BY RALPH V. CHAMBERLIN.

THE new arachnids in several collections submitted for identification are here diagnosed to render their names available for early use in connection with the ecological and other studies which led to the making of the collections. Of these collections mention may be made specially of one by Prof. W. C. Allee on Barro Colorado Island, Canal Zone, of one by James Zetek made in the course of work on the fauna of termite nests, also in the Canal Zone, and of one consisting of specimens taken from the stomachs of toads and the crops of birds in various parts of North America in the course of studies on food-habits made by the U. S. Biological Survey at Washington. The types of these new species are in the Museum of Comparative Zoölogy, Cambridge.

ARANEINA.

CTENIZIDAE.

PACHYLOMERUS EREMUS, sp. nov.

♀. Carapace and legs dusky brown, paler over a median area in front of the strongly procurved thoracic impression. Sternum, coxae of legs beneath, and the tarsi yellowish. Abdomen with a slightly purplish cast, the spinnerets light brown. Eyes on a slightly elevated tubercle. Area of median eyes wider behind than in front in the ratio 13:10. Anterior median eyes with diameter not half that of an anterior lateral. Inner margin of furrow of chelicera with four teeth, the outer with seven. Labium in type with the teeth in three series. Endites with teeth over entire length, those toward distal end smaller than the basal ones. Anterior tibiae and tarsi with a band of several series of spines along each side. Patellae I and II with an obtuse protuberance on caudal side, and patella I with a single spine at distal end on anterior side. Patella III with several short spines on anterior side of which the distal ones are larger than the others. Tibia III with a few small spines across distal end above and several stouter ones at distal end on caudal side. Metatarsus III with spines only on distal half above.

Length, 8.5 mm.

TYPE.— M. C. Z. 1,261.

LOCALITY.— Barro Colorado Island. One female.

*PACHYLOMERUS OAXACANUS*, sp. nov.

♀. Original color altered in preservation. Apparently the cephalothorax and legs were light brown and the abdomen dark gray or blackish. Palpi flattened, with spines along edges. Anterior legs with the several bands of spines along sides as usual. Patella III with a row of spines across distal end above and several spines back of this row. Tibia III with many spines above and on anterior side distad of the depression. Entire upper surface of metatarsus III covered with spines. Spines along anterior side of metatarsus III and ventrally at distal end. Rastellum carried forward on a prominent process above base of claw. Endites with a small triangular patch of stout spinules at proximal end, the spinules elsewhere sparse and much weaker. In the type there are eight spinules on the labium.

♂. Tibia of palpus swollen convexly below, the greatest thickness equal to half the length, greater than that of femur in about ratio 22:13. Stylus of bulb rather short, proximally stout, slightly curved at distal end.

Length of about 9 mm.

TYPE.—M. C. Z. 1,262.

LOCALITY.—Mexico: Oaxaca. One male and one female from the stomach of a toad.

## DYSDERIDAE.

*ARIADNA JALISCOENSIS*, sp. nov.

♀. Carapace chestnut, dusky on sides anteriorly. Sternum and legs also chestnut; the tibiae, metatarsi, and tarsi of first pair with tegument darkened; femur, patella, tibia, and metatarsus in particular clothed with numerous long hairs. The second legs similarly but less densely clothed. Abdomen dark gray above, without markings, paler beneath. Median eyes circular, contiguous, and forming with the posterior laterals a straight line; separated from the laterals by their diameter. Tibia I with four pairs of spines beneath, metatarsus I with nine pairs. Tibia II with four spines under the posterior border and two under the anterior border paired with the most distal ones of posterior row; two spines on anterior face caudad of the middle. Tibia III with two seriate spines beneath.

Length, 12 mm.

TYPE.—M. C. Z. 1,263.

LOCALITY.—Mexico: S. W. Jalisco, Hacienda San Marcos, P. H. Goldsmith. 11-17 July, 1905. One female.

## GNAPHOSIDAE.

## GNAPHOSA PEON, sp. nov.

♀. Carapace and legs dull yellow. Sternum lighter yellow. Abdomen dark gray at sides and above or the dorsum somewhat lighter, in part of an orange tinge. Venter lighter. Posterior median eyes oblong or subelliptic, oblique to each other, separated by half their longest diameter, about once and a third that diameter from the laterals. Lateral eyes on each side separated by slightly more than their diameter. Anterior row of eyes decidedly procurved; medians with their diameter five sixths that of the laterals. Clypeus equal in height to the diameter of an anterior lateral eye. Tibia I unarmed beneath. Tibia II with a single ventral spine, this at distal end. Metatarsi I and II each with two pairs of spines beneath. Tibia III with a median dorsal spine above.

Length, 6 mm.

TYPE.—M. C. Z. 1,264.

LOCALITY.—Mexico: Vera Cruz. Two females.

## GEODRASSUS YAVAPAINUS, sp. nov.

♀. Carapace and sternum yellowish brown. Legs yellow. Abdomen dark gray above, lighter beneath as usual. The posterior median eyes oblique, less than half their longer diameter apart, once and a half that diameter from the laterals. Lateral eyes about once and a fourth the diameter of the posterior one apart. Tibia I with one long spine beneath a little distad of middle. The epigynal area is proportionately wider than in *phanus* and much more so than in *auriculoides*; having much the shape of that of the former species but with foveolae more strictly transverse.

Length, 7.2 mm. Length of cephalothorax, 4.1 mm.; of tibia + patella IV, 4.1 mm.

TYPE.—M. C. Z. 1,266.

LOCALITY.—Arizona: Yavapai Co. One female from stomach of toad.

## ZODARIIDAE.

## NAIBENA, gen. nov.

Cephalothorax convex, highest near middle, the pars cephalica but little narrower than the pars thoracica, the clypeal region convex. Stria thoracica short but distinct. Anterior row of eyes procurved, much shorter than the posterior row. Posterior row of eyes straight or nearly so, the medians much

nearer to each other than to the laterals; the laterals taken with anterior medians forming a strongly recurved row. Area of median eyes longer than wide, narrower in front than behind. Lateral eyes widely separated from each other. Claw of chelicera small, normal; furrow short, its margins unarmed; lateral condyle strongly developed. Sternum pointed behind. Coxae of the fourth legs contiguous. Median claw of tarsi borne on an empodium. Tarsal claws with numerous, uniseriate teeth. Posterior legs strongly spined, the usual verticillate group at end of metatarsus. The usual dense patch of seriate setae at distal end of metatarsi. Spinnerets short, anterior and posterior pairs subequal, contiguous.

GENOTYPE.—*Naibena barrona*, sp. nov.

NAIBENA BARRONA, sp. nov.

Carapace brown, dusky on the sides. Sternum and legs yellow. Abdomen black above, with three pairs of white spots and a single median white spot at caudal end. Venter pale, with a median longitudinal dark line and, on each side, a dark band arising from caudal end of median line at base of spinnerets and running obliquely cephalodorsad to merge in dark of sides. Anterior row of eyes decidedly procurved; medians much smaller than the laterals, their diameters comparing about as 3:5; medians about their diameter apart, farther from the laterals. Eyes of posterior row equal to each other and to anterior laterals; medians separated by rather less than a third their diameter, nearly twice (1.8) their diameter from the laterals.

Length, 5 mm.

TYPE.—M. C. Z. 1,267.

LOCALITY.—Barro Colorado Island. W. C. Allee. One not fully adult female.

THERIDIIDAE.

VIBRADELLUS, gen. nov.

Pars cephalica strongly slanting forward from the stria thoracica. The four median eyes on a forwardly directed process of pedicel as in *Vibrada* and each lateral eye on a small individual pedicel widely removed from the median eyes. Abdomen large, subcircular in outline as viewed from above, dorsally flattened, not elevated as in *Ulesanis*, the tegument hard and granular but not with distinct scuta such as are present in *Vibrada*. Sternum cordate.

GENOTYPE.—*Vibradellus carolinus*, sp. nov.

VIBRADELLUS CAROLINUS, sp. nov.

♂. Carapace dusky brown, without definite markings. Legs yellow except the femora which are brown or dusky or yellow only at proximal end. Abdo-



men at present yellow, but it may be more or less bleached. The carapace widest posteriorly, narrowing forwards to posterior lateral eyes and then more abruptly narrowed to the pedicel carrying median eyes; on each side posteriorly a patch of conspicuous pointed tubercles or teeth. Anterior median eyes carried far forward above the laterals. Posterior row of eyes strongly recurved, the lateral eyes widely removed from the medians. Legs unspined ventrally, but all patellae with several short spines or teeth dorsally and the tibiae with at least one at distal end above. Abdomen flattened or somewhat concave above, semicircular in outline behind, with a rounded shoulder or protuberance a little behind each anterolateral corner. Tibia of palpus with a distally truncate, laminate process on ventral side; tarsus proportionately large.

Length, about 3 mm.

TYPE.—M. C. Z. 1,268.

LOCALITY.—South Carolina. One male from stomach of toad.

#### DIPOENOIDES, gen. nov.

Cephalothorax very high, the height exceeding the width and length, and the width exceeding the length. Clypeus several times higher than length of chelicerae which are weak. Posterior row of eyes procurved, its eyes nearly equidistant. Anterior median eyes widely separated, much closer to the laterals than which they are smaller.

GENOTYPE.—*D. apacheus*, sp. nov.

Differs from *Dipoena* in having anterior median eyes smaller than the laterals and the posterior row procurved instead of recurved.

#### DIPOENOIDES APACHEUS, sp. nov.

♂. Carapace dusky yellow. Sternum nearly black. Legs yellow, spotted with black. Abdomen largely bleached out in type but apparently with a folium in outline on dorsum, the sides outside of and below the wavy line of folium darker than mid-dorsal region, spotted. The setae on dorsum of abdomen stout, spinescent. Tarsus of palpus proportionately very large; bulb with two processes arising distad of middle and extending distad beyond the end of the cymbium; of these processes the inner (mesal) one, probably the embolus proper, is more slender and is nearly straight; the outer process is stout proximally but is acutely narrowed distally and is somewhat twisted in proximal portion.

Length, about 3 mm.

TYPE.—M. C. Z. 1,269.

LOCALITY.—Arizona: Yavapai Co. One male from stomach of toad.

## LINYPIIIDAE.

## BATHYPHANTES CASTOR, sp. nov.

♂. Carapace and sternum dusky yellow. The legs also dark yellow proximally, lighter distally. Abdomen black, without markings. Posterior row of eyes slightly procurved; medians subequal to the laterals, somewhat more than their radius from each other and about their diameter from the laterals. Anterior median eyes smaller than the laterals, their diameters being about as 4:5, about their radius from each other and their diameter from the laterals. Clypeus depressed just below eyes and then slanting forward to base of chelicerae. Upper margin of furrow of chelicera with four teeth of which the two most distal ones are raised on a common base. Lower margin with two teeth which are minute and close together and opposite the two connate ones of upper margin. Embolus of palpus curved around distal end of bulb in the typical manner; paracymbium slender, distally geniculate and almost uncate.

Length, 2.5 mm.

TYPE.—M. C. Z. 1,270.

LOCALITY.—Alaska: Beaver Mountains, May, 1920. Two males.

## ARGIOPIDAE.

## GLENOGNATHA CENTRALIS, sp. nov.

♂. As the type was taken from the stomach of a toad, details of coloration are largely lost. At present the carapace, sternum, and chelicerae are brown, the legs yellow, and the abdomen dark, blackish, but it may have had lighter markings. On the lower side of furrow of chelicera there are three teeth, a small one near base of claw, two much larger ones farther caudad in line oblique to the axis of the claw, when closed. On the upper margin of the furrow of the chelicera there are also three long, erect teeth of which the middle one is longest and the proximal one smallest. The chelicerae are strongly divergent and their distal ends are separated by a distance greater than their length. Distal process on bulb of palpus in the form of a chitinous blade rolled at the end.

Length, about 2.2 mm.

TYPE.—M. C. Z. 1,272.

LOCALITY.—Panama. One male from stomach of *Bufo* sp.

## EUSTALA CONFORMANS, sp. nov.

♀. Carapace and sternum dull yellow, without markings. Legs dull yellow, in part dusky above, clear yellow below. Abdomen broadly sub-

triangular, rounded at corners, flattened above. Dorsum of abdomen grayish yellow anteriorly, becoming gray in middle and posterior regions. A median cuneate mark at base with narrow end forward; behind middle a dark band which abruptly narrows and continues to spinnerets as a band with dentate margins and of uniform width. Venter yellowish, dusky in front of spinnerets and in a cross-band at middle. Sides dark gray, streaked with black below. The epigynum has much the general form of that of *E. semifoliata* Cambridge, the scape long, strongly cross-wrinkled, narrowed distad to the base of the smooth apical process which is shorter and thicker than in *semifoliata*.

Length, 4.2 mm.

TYPE.—M. C. Z. 1,273.

LOCALITY.—Barro Colorado Island. W. C. Allee. One female.

#### EUSTALA TUCEPS, sp. nov.

♀. Carapace with pars thoracica yellow, the pars cephalica abruptly darker, brown or light chestnut, the chelicerae a little darker. Sternum and legs yellow, the anterior pairs darker, somewhat dusky yellow. Dorsum of abdomen yellowish, with a folium outlined in black, the sides of folium wavy; a median longitudinal black line broken anteriorly and the posterior portion less distinct. Sides of abdomen dark, the venter gray, without markings. The epigynum is characteristic, the posterior plate broad and wholly smooth, notched at the middle behind, and the forwardly directed scape very short; openings of spermatheca widely separated. Abdomen subelliptic in outline as seen from above.

Length, 7 mm.

TYPE.—M. C. Z. 1,274.

LOCALITY.—Barro Colorado Island. W. C. Allee. One female.

#### PSEUDOMETA BIOLOGICA, sp. nov.

♀. Carapace yellowish white with the pars cephalica above dusky or black, the dark color extending back over the thoracic stria. Sternum black, with a median longitudinal yellow stripe acutely pointed behind. Legs yellow; the anterior femora dusky distad of the middle and the posterior femora with two dusky annuli distad of middle, the joints elsewhere with numerous, mostly fine, dark dots on each of which a seta is inserted; tibiae similarly finely dotted with dark, a more definite dark annulus at distal end on anterior legs and two annuli on posterior tibiae; metatarsi also finely dotted, with a tendency to form three or four annuli on anterior legs, the distal two of these annuli being most distinct, and three on posterior legs. Abdomen dirty white above; a dorsal folium outlined in black, a longitudinal line and veins running out from

it faint, but the wavy border distinct, the folium discontinuous caudally however; numerous black spots and streaks on each side; venter with an unevenly edged, longitudinal black band from spinnerets forward across epigynum. Epigynum strongly chitinized, wide in proportion to length; the usual hammer-headed or anchor-shaped median piece shaped much as in *P. alboguttata* Cambridge, but the septal piece not produced at anterior end as in that species, the median piece depressed at a marked angle to the anterior part of plate. Abdomen elliptic in outline.

Length, 10 mm. Length of cephalothorax, 3.5 mm.

TYPE.—M. C. Z. 1,275.

LOCALITY.—California: Pacific Grove, at the Hopkins Laboratory. R. V. Ellis. Three females.

#### THOMISIDAE.

##### XYSTICUS LASSANUS, sp. nov.

♂. Color-pattern of the ordinary type. Carapace blackish along sides, with a wide median longitudinal light stripe as wide anteriorly as eye-area, the stripe embracing numerous dark dots and two rather weakly defined dark marks placed longitudinally back of posterior median eyes. Sternum light, with numerous small brown spots. The species is characterized by the palpus. In this the tibial apophysis presents two branches of which the dorsal one is pointed while the ventral one is broader, laminate, with its distal end oblique. Embolus evenly curved around the periphery of the bulb. A pointed apophysis below embolus on mesal side and a low median apophysis with principal point directed mesad.

Length, about 4.8 mm. Length of cephalothorax, 2.2 mm.

TYPE.—M. C. Z. 1,277.

LOCALITY.—Texas: Roberts. One male in poor condition from *Geococcyx californicus* (Lesson).

#### SELENOPIIDAE.

##### SELENOPS SALVADORANUS, sp. nov.

♀. Carapace brown, darker at margins. Sternum and coxae of legs beneath yellow, the sternum somewhat dusky except in the middle area. Legs yellowish; femora with two large dark spots beneath; tibiae and metatarsi each with two dark annuli which are less pronounced dorsally. Abdomen dark gray above, paler beneath. Posterior lateral eyes somewhat less than half the diameter of the anterior laterals (13:30). Anterior median eyes three fourths their diameter apart. In the epigynum of the female the median piece is

somewhat diamond-shaped with one point extending toward caudal median notch and the opposite one continuing forward as a median raised line.

Length, 13 mm.

TYPE.—M. C. Z. 1,278.

LOCALITY.—San Salvador, January, 1920. One female.

#### SPARASSIDAE.

##### OLIOS YUCATANUS, sp. nov.

♀. General color of carapace yellow, a faint dark line back of each posterior median eye and on each side of pars cephalica some distance back of the lateral eye, two dark lines somewhat oblique to each other. Sternum and coxae of legs clear light yellow. Legs yellow, without markings. Abdomen above yellowish marked with numerous small dark dots which, however, leave a clear spear-mark at base behind which the dots on the median line are somewhat heavier than elsewhere. Venter yellow, a broad dusky area back of genital furrow and a dusky spot each side of epigynum. Anterior median eyes a little larger than the anterior laterals and also larger than the posterior medians, less than their diameter apart, and slightly nearer to the laterals. Posterior eyes equal, the medians a little nearer to each other than to the laterals. The epigynal depression, viewed from behind, wider than long, not narrowed at the open or caudal end, its bordering rim chitinous, the border thickening in front crossed by a median longitudinal furrow; the median chitinous piece filling the depression, wider than long, convex behind.

Length, 10.5 mm.

TYPE.—M. C. Z. 1,279.

LOCALITY.—Yucatan: Chichen Itza, 1 March, 1904. L. J. Cole. One female.

#### CTENIDAE.

##### CTENUS DOLOMEDES, sp. nov.

♂. Under alcohol the carapace shows a darker median band as wide as the eye-area, and the lateral borders are also darkened, the sides otherwise yellow. Sternum and coxae of legs yellow. Legs with femora yellow below, crossed above with dusky bands or spots which are not sharply limited; tibiae darkened proximally and distally; metatarsi with dusky annulus at each end and one at middle. The abdomen with a sagittate mark at base above followed by several dark chevrons on posterior portion; dark spots on sides of dorsum. In a partly grown specimen there is a broad dark band over the entire length of abdomen, the band solid except for two spots enclosed anteriorly. Venter pale at sides, with a conspicuous median longitudinal dark band which ends a little

in front of spinnerets and has irregular edges. Area of median eyes wider than long (nearly as 6:5), much narrower in front than behind (nearly as 4:5). The anterior median eyes much smaller than the posterior medians. Second row of eyes decidedly procurved. Posterior medians and posterior laterals equal in size or nearly so. In the palpus the tibial apophysis is moderately broad, with distal end slightly convex and not at all acuminate, the apophysis wholly free from teeth or spines. The legs are unusually long and tibia plus patella III are decidedly longer than the cephalothorax.

Length, 10.5 mm. Tibia + patella IV, 9.25 mm.

TYPE.—M. C. Z. 1,280.

LOCALITY.—Barro Colorado Island. W. C. Allee. One adult male and an immature female.

Characterized among other Central American species of the genus by coloration, the very long legs, and the structure of the palpus, which is distinctive.

#### CLUBIONIDAE.

##### CLUBIONA BUFONIS, sp. nov.

♂. Carapace and sternum light brown. Legs yellow. Abdomen gray. Posterior row of eyes straight or nearly so, much longer than the anterior row, the eyes widely separated with the medians considerably farther from each other than from the laterals. The species is readily differentiated by the form of the tibial apophysis. This presents two main branches; of these the upper and mesal one is a lamina widened distad and presenting a long distal edge like an ax; the lower branch is divided into two subequal processes which are blade-like, but rather narrow and distally truncate. Bulb strongly chitinous; a large median chitinous plate has an acute spur from base on outer side, the principal part of this plate extending forward over bulb as a very broad, slightly twisted lamina. The embolus, broad and blade-like at base and becoming distally slender, curves from mesal side around distal end of bulb and back proximad on ectal side.

Length, about 3.5 mm.

TYPE.—M. C. Z. 1,282.

LOCALITY.—Upper Missouri River. One male from stomach of toad.

##### CHIRACANTHIUM FALCULUM, sp. nov.

♂. Carapace and sternum yellowish brown, the legs similar but more yellow beneath. Abdomen gray, unmarked. Anterior row of eyes distinctly recurved; median eyes less than their radius apart, a little farther from the laterals; the medians a little larger than the laterals. Posterior row of eyes

straight or very slightly procurved, considerably longer than the anterior row, the medians farther from the laterals than from each other as usual. Tibiae I and II with three pairs of spines below and with three spines on anterior face and two on posterior face. The tibial apophysis as viewed from below is nearly straight and of uniform thickness until the distal fourth or fifth of length is reached when it abruptly narrows into a small, curved, sickle-like blade. Embolus encircling the bulb.

Length, 9 mm. Tibia + patella I, 6 mm.; tibia + patella IV, 5.2 mm.

TYPE.—M. C. Z. 1,283.

LOCALITY.—Florida: Sebastian, 14 February, 1919. A. Weese. One male.

#### ANYPHAENA INFERENS, sp. nov.

♀. Carapace brown on the upper part of sides, paler below and in a mid-dorsal band. Sternum yellow. Legs light brown, paler beneath. Abdomen marked above with a dark median longitudinal dentate band which tends to break into distinct chevrons on caudal portion; at sides many small dark spots and streaks. Venter paler yellow, unmarked. Anterior tibiae with four pairs of long ventral spines, three spines on anterior face and two on posterior. Anterior metatarsi with two pairs of ventral spines. The epigynum presents a median longitudinal tongue extending from anterior end and ending about one fourth the length from the caudal margin; in front of caudal margin two transversely elliptic dark areas narrowly separated from each other at middle; on median tongue at its anterior end a second short process projecting caudad.

Length, up to 7 mm.

TYPE.—M. C. Z. 1,354.

LOCALITY.—Costa Rica. Seven females.

#### MAZAX SEGREGATA, sp. nov.

♀. Posterior row of eyes straight or but little procurved; the eyes equal or very nearly so; median eyes separated by a little more than their radius and somewhat closer to the laterals. Anterior median eyes smaller than the laterals (ratio of diameters as 7:9); medians less than their radius apart, closer to the laterals; the row strongly procurved, a line through the centers of the medians being nearly tangent to caudal edges of laterals. Clypeus a little lower than diameter of an anterior lateral eye. Tibia I with six pairs of spines beneath; tibia II with five pairs of spines beneath. Metatarsi I and II with two pairs of spines ventrally. Lower margin of furrow of chelicerae with two teeth. Basal dorsal scutum of abdomen smooth and shining, wholly without teeth or processes. Carapace and sternum nearly black. Chelicerae blackish



down front face. Femora of legs mostly black, yellowish on ventral side and distally, especially on anterior pairs; other joints of anterior pairs yellow or tibiae but little darkened. Third legs with tibiae and metatarsi darkened along the sides. In fourth legs the tibiae and metatarsi are almost wholly black, the tibiae lighter at ends.

Length, 6.5 mm.

TYPE.—M. C. Z. 1,285.

LOCALITY.—Barro Colorado Island. W. C. Allee. One female.

Distinguished from other known species in having the anterior median eyes smaller than the laterals, and with six pairs of spines under tibia I, etc.

*TRACHELAS BARROANA*, sp. nov.

♂. Carapace and mandibles dark chestnut. Sternum and coxae of legs beneath and the femora of first legs a lighter chestnut; other joints of first legs and other legs, except possibly the second, which are missing from the type, yellowish. Abdomen gray, with a large elliptic dorsal area of weakly orange cast; venter a paler gray and unmarked behind genital furrow in front of which it is a dilute yellowish chestnut. Carapace strongly narrowing behind. Carapace and mandibles densely rugulose-punctate. Posterior row of eyes strongly recurved; medians about once and a fourth their diameter from each other and nearly twice their diameter from the laterals. Area of median eyes wider behind than in front nearly in ratio 16:13. Anterior row of eyes rather strongly procurved; the median eyes slightly larger than the laterals, about one fourth their diameter apart and twice as far from the laterals. Chelicera with four teeth on lower margin of furrow. First legs with numerous black teeth or cusps along ventral surface of tibia, metatarsus, and tarsus. Fourth legs without cusps, but the third leg with cusps on anterior side of patella, tibia, and metatarsus. Tibia of palpus twice as long as greatest thickness.

Length, 6 mm.

TYPE.—M. C. Z. 1,286.

LOCALITY.—Barro Colorado Island. W. C. Allee. One male.

*CORINNA EUTYPA*, sp. nov.

♀. Carapace and chelicerae chestnut colored. Sternum yellow at middle, dusky elsewhere. Palpi and anterior legs dilute chestnut, lighter proximally, the posterior pair somewhat lighter except that metatarsi and tarsi are equally dark. Abdomen greenish gray, with a dark area adjacent to the pedicel and two dark bands across dorsum and down sides farther caudad, these bands interrupted on the middorsal line. Venter unmarked. Anterior row of eyes decidedly procurved, the eyes equal and nearly equidistant. Posterior row of

eyes longer than the anterior, procurved, the eyes equal and equidistant. Lower margin of furrow of chelicera with four stout teeth. Tarsus I with four pairs of spines beneath and in addition a pair of small, almost setiform ones at distal end. Structurally approaching *C. bulbosa* Cambridge, the epigynum being also of the same general type.

Length, 9 mm.

TYPE.—M. C. Z. 1,287.

LOCALITY.—Barro Colorado Island. W. C. Allee. One female.

#### CHEMMIS BARROANUS, sp. nov.

♂ (im.). Carapace light yellow; a black marginal stripe on each side; a brown longitudinal stripe with irregular edges and partly interrupted on each side in line with the lateral eyes, the two brown stripes uniting across posterior declivity; also a brown median mark in front of stria and in front of this a brown line; a small brown spot back of each posterior median eye. Chelicerae yellow, with a brown area down anterior face. Sternum and coxae of legs pale, unmarked. Legs yellow, annulate with dark, the annuli on femora interrupted above and below, the dark areas on metatarsi embracing all or nearly all of the article. Abdomen yellowish white above with numerous small brown spots; venter pale, without markings. Posterior row of eyes slightly recurved, the eyes nearly equidistant. Distinguished from the Costa Rican *C. frederici* Simon, the genotype, in having six pairs of ventral spines on tibiae I and II instead of five pairs.

Length of the not quite mature male, 7 mm.

TYPE.—M. C. Z. 1,288.

LOCALITY.—Barro Colorado Island. W. C. Allee. One not quite adult male.

#### AGELENIDAE.

##### ISHANIA, gen. nov.

Cephalothorax broad anteriorly where much wider than the eye-area; highest behind eyes, the eye-region slanting forward. Clypeus vertical, several times higher than length of median eye-area. Anterior row of eyes strongly procurved, the median eyes smaller than the laterals. Posterior row of eyes procurved, the eyes subequal, or the medians a little smaller. Area of median eyes wider behind than in front, longer than wide. Lower margin of chelicera wholly unarmed, the upper margin also without teeth but with a series of long curved setae. Labium triangular, nearly as long as endites. Endites narrowed distally. Lower spinnerets stout and cylindrical, contiguous.

Upper spinnerets more slender, plainly two-jointed, but the second joint decidedly shorter than the first. Tibia of male palpus with an elongate apophysis.

GENOTYPE.—*Ishania tentativa*, sp. nov.

Suggests *Thaïda* Karsch, also based upon a Costa Rican species, in the eye characters and the very high clypeus, but it lacks the strongly bisinuous clypeal margin of that species and has the labium triangular instead of quadrate. Also in the male palpus the tibia is much longer in *Thaïda* and no apophysis is shown for it in Karsch's figure.

ISHANIA TENTATIVA, sp. nov.

♂. Carapace brown, legs yellow, and abdomen gray without markings that show in the type. Cephalothorax highest near caudal end of pars cephalica from where it slopes evenly and convexly to caudal margin and less strongly forward to first eye-row. Clypeus very high, vertical, its lower margin nearly evenly convex but somewhat flattened at middle. Leg I missing. Tibia II with two spines in series under anterior border, a third, basal, spine in line with the other two apparently lost. Metatarsus II with one ventral spine proximad of middle and a smaller submedian spine on anterior face. In the palpus the tibia proper is no longer than the patella but it is produced into a nearly straight apophysis longer than the joint proper and extending distad at side of bulb at edge of cymbium. The embolus arising on mesal side curves across bulb and back as far as base of patella where it is broken off, apparently having had an even greater length.

Length, about 3 mm.

TYPE.—M. C. Z. 1,289.

LOCALITY.—Costa Rica. One male from stomach of toad.

PISAUROIDAE.

ENNA NESIOTES, sp. nov.

♀. Carapace dusky brown, with a narrow median pale stripe which is pointed down the posterior declivity and is triramous in front, a lateral branch ending behind each posterior lateral eye and sometimes disconnected at base, and a narrow median branch or line running forward; also on each side a narrow supramarginal light band which is interrupted or broken into a series of spots. Chelicerae chestnut-black. Sternum yellowish, dusky about borders. Legs dusky, sometimes of a greenish cast, ringed or spotted with yellow, the annulation most distinct on femora, the tibiae ordinarily showing three annuli. Abdomen dark over the sides and dorsum, above with a pale, caudally pointed, median mark at base and each side of this and continuing farther back an irregular series of small light dots which may be obscure. Venter grayish,

without markings, the epigynum light chestnut. The epigynal area shows a black, more chitinous, rim behind and laterally which is not incised at middle behind as it is in *E. velox*; there is a prominent convex fold on each side of median longitudinal depression or furrow, but between the folds there is no median lobe such as Cambridge represents for *E. velox*.

Length, 7 mm.

TYPE.—M. C. Z. 1,290.

LOCALITY.—Barro Colorado Island. W. C. Allee. Three adult and one immature females.

### LYCOSIDAE.

#### PIRATA PAGICOLA, sp. nov.

♀. Under alcohol the carapace shows a background of yellow with the usual V-shaped mark behind the eyes, a broad dark band along each side and a narrow dark stripe close to each margin; eyes edged with black and a black transverse area back of eyes of second row. Sternum clear yellow. Legs yellowish, the femora under the lens appearing obscurely ringed with dark, the tibiae with more vague indications of annuli. The abdomen dark above, with a paler basal mark and, over entire length, a series of paired white spots of which those in the posterior region are more or less connected by straight transverse lines; no true chevron marks such as are so pronounced in *P. felix* Cambridge, a form reported from Guatemala and Mexico. Venter yellow, unmarked. Epigynum of the typical general form, the two lobes rather close together, the opening on each distinct and lying obliquely; between the bases of the lobes, at bottom of excavation between them, two chitinous projections which are the continuations of parallel ridges running cephalad.

Length, 3.5 mm.

TYPE.—M. C. Z. 1,292.

LOCALITY.—Barro Colorado Island. W. C. Allee. One female.

#### ALLOCOSA PANAMENA, sp. nov.

The types of this species were taken from the stomach of a toad and as a result do not show coloration well. However, it is obvious that the legs are annulate and the carapace shows a lighter dorsal area and a lighter supra-marginal stripe, a color-pattern being apparently more strongly marked than is usual in this genus. The form seems clearly distinct in the palpus of the male. In this the distal branch of the scopus is long, extending transversely to the edge of the cymbium where it bends caudad abruptly; the inferior branch of scopus shorter, acute, not curved; from the guide the usual chitinous process extends transversely to edge of alveolus and is acutely pointed and

straight; from the opposite side of conductor the embolus arises and curves proximad and then transversely behind the scopal fold. The spines of anterior tibiae long.

Length of male, about 3 mm.; of female, 4 mm.

TYPE.—M. C. Z. 1,293.

LOCALITY.—Panama. One male (holotype) and one female (allotype) from stomach of *Bufo*.

*ALLOCOSA PYLORA*, sp. nov.

♂. Carapace brown, without markings except that the eye-region is blackish, clothed with very sparse black hairs. Sternum black, the coxae of legs brown. Legs brown; femora with two black annuli broken below and also more or less above; tibiae black at ends; metatarsi with three black annuli. Abdomen brown above, with black dots more or less connected and outlining a basal mark and several chevrons behind; sides darker; venter light, without spots but with two faint parallel darker lines along middle. Tibia I with five spines beneath an unpaired one at base and a pair each at middle and at distal end, otherwise unarmed. The bulb of the palpus is characteristic in having the long principal branch of the scopus bent near its middle abruptly ventrad and thus away from the bulb; the process from the conductor is simple, not divided as in *rugosa* nor folded as in *parva*.

Length, 7.2 mm.

TYPE.—M. C. Z. 1,295.

LOCALITY.—Texas: El Paso. One male.

*ALLOCOSA VIRGO*, sp. nov.

♀. Carapace light chestnut brown without lighter stripes or markings. Sternum yellow, coxae of legs brown. Legs brown, in the type, long preserved in alcohol, no annuli obvious but indications are present that the posterior tibiae at least may have been definitely annulate in life. Abdomen pale along middle of dorsum, darker at the sides, the pale band enclosing a spear-mark in outline at base. Venter clear yellowish brown. Lower margin of furrow of chelicera with three teeth. Tibia I with three pairs of spines beneath, the spines of basal pair overlapping the bases of those of the second, the distal pair reduced. The species is well characterized by the form of the epigynum. This is of the general type of that in *A. evagata* Chamberlin, but the spermathecal openings are much nearer together; in front of each opening a dark circular area.

Length, 8 mm.

TYPE.—M. C. Z. 1,296.

LOCALITY.—Virginia: Fairfax. Two males.

## LYCOSA BENEDICTA, sp. nov.

♀. A form in general structure allied to *L. coloradensis* and *L. evagra*. It differs superficially from these species in having the venter of the abdomen behind the genital furrow solid black while light colored in front of the furrow and about bases of spinnerets. Abdomen above with a solid dark basal mark followed behind by several black triangular marks; the dorsum each side of basal mark clothed with gray and brown hair intermixed or in separate spots and streaks. Sides of abdomen above dark. Sternum solid black, the coxae of legs beneath brown or dusky, perhaps black in specimens in full color. Carapace chocolate-brown, the tegument showing a light spot about and in front of stria, the spot with radiating branches; a light supramarginal stripe on each side. Legs brown, the femora with two cross-bars of black above; patellae black beneath and all tibiae black at distal end beneath. The epigynum more strongly constricted in front of caudal cross-piece than in *coloradensis*, but nearly the same as in *evagra*.

♂. Coloration as in the female.

Length of female, 15 mm.; of cephalothorax, 9 mm. Length of male, 15 mm.; of cephalothorax, 8.5 mm.

TYPE.—M. C. Z. 1,298.

LOCALITIES.—Virginia: Alexandria. One male and one female. Alabama: Selma, a male and a female. Texas: Dallas, a female. Illinois: Chicago, a male. Arizona, one male and one female.

## LYCOSA EVAGRA, sp. nov.

♀. Integument of carapace reddish brown, without distinct lighter stripes, clothed with gray hair. Sternum and coxae of legs beneath solid black. Legs brown, the tibiae black at distal end, the legs otherwise unmarked. Abdomen with a dark basal mark which is furcate at its end at middle of abdomen and is dentate on sides; the basal mark followed behind chevron marks; on each side of dorsum a row of larger marks and many much smaller dots. Venter solid black in front of genital furrow; numerous small brown dots behind the furrow and solid brown or somewhat blackish at base of spinnerets, the spinnerets themselves black or nearly so. The epigynum has the guide widely expanded at middle where it occupies nearly the full width of the cavity, but immediately behind this it is abruptly narrowed to a slender pedicel connecting with the cross-piece as in the preceding species; the cross-piece moderately long, rather strongly curved forwards at ends.

Length, 22 mm. Length of cephalothorax, 9.5 mm.

TYPE.—M. C. Z. 1,303.

LOCALITY.—Mexico: Chihuahua, Montezuma Station. One female.



## LYCOSA APACHA, sp. nov.

♀. This form belongs with those having a wide median longitudinal light band on carapace, this band widest on head at the caudal part of which it is rather abruptly narrowed, the band densely clothed with white hair. Sternum and legs brown, the posterior tibiae, at least dark at ends. (Anterior legs missing). Abdomen with basal dark mark followed by chevrons. The species will be readily recognized by its very characteristic epigynum. This is short, considerably wider than long; cross-piece of guide decidedly longer than the septal piece and extending almost entirely across caudal end of epigynal area; septum narrow at junction with cross-piece, strongly widening cephalad, almost fan-shaped.

Length, 14 mm. Length of cephalothorax, 7.5 mm.; of tibia + patella IV, 8 mm.

TYPE.—M. C. Z. 1,304.

LOCALITY.—Arizona. One female in poor condition.

## LYCOSA PARTHENUS, sp. nov.

♀. A species in the *avara* group. From *avara* it differs, as does *gosiuta*, in lacking a median process on the cross-piece of guide in epigynum and in having the ends of the cross-piece bent far forwards, also as in *gosiuta*. The ends of the cross-piece in the present species, however, extend more obliquely and reach relatively farther forward, extending, in fact, farther forward than the septum. It is a smaller form than either of the other species mentioned.

Length, 8 mm.

TYPE.—M. C. Z. 1,305.

LOCALITY.—Florida: Bartow. One female.

## LYCOSA TUSAPA, sp. nov.

♂. Carapace dark chocolate-brown on sides; a wide median pale stripe narrowing forward between eyes of third row, clothed with white hair which continues in a line forward between eyes of second row; on each side a supra-marginal light band also clothed white hair. Sternum and coxae of legs black. Legs brown, not annulate but first pair with femur, patella, and tibia black or nearly so; femur of second legs also blackish; femora of posterior legs less darkened. Abdomen above with a solid spear-mark which is acutely pointed behind, where it divides two chevron marks and ends on a third one behind which there are two or three other chevron marks, the most caudal of these being interrupted at the middle line. Sides of abdomen dark, blackish above, lighter below. Venter solid black behind genital furrow and in a median band



in front of it, the black area bordered by yellow on each side. Lower margin of furrow of chelicera with three teeth. The palpus very characteristic. The scopus is transversely elongate, extending past middle line toward mesal side of bulb where it ends in two teeth or processes, the continuation of transverse folds or ridges. Embolus very short and bent at right angles at middle.

Length, 9 mm.

TYPE.—M. C. Z. 1,306.

LOCALITY.—California: Goose Lake.

#### LYCOSA EUTYPA, sp. nov.

♂. Carapace with a narrow median pale line which extends forward between eyes of last two rows and down the front; also a narrow but very distinct supramarginal line on each side. Sternum and coxae of legs below yellow or yellowish brown. (In a paratype from Barro Colorado Island the sternum has a black stripe on anterior half each side of middle). Legs yellowish brown, not annulate. Abdomen above with a median longitudinal dentate band which reaches to the spinnerets and a dark band on each side running back from each anterior corner and uniting with the median band above spinnerets. Venter darker at sides, pale in middle, the lighter area enclosing a somewhat darker median band for a distance back of genital furrow. Palpus slender, the tarsus not heavy. Scopus of palpus submedian in position and rather weakly developed.

Length, 11 mm.; cephalothorax, 6 mm.; tibia + patella I, 6.2 mm.; tibia + patella IV, 6.4.

TYPE.—M. C. Z. 1,307.

LOCALITY.—Panama, Thomas Barbour. One male. Barro Colorado Island. James Zetek. One adult and one immature male.

#### LYCOSA ARCHAEOLOGICA, sp. nov.

♂. Carapace brown, with a median light stripe narrower than the eye-area anteriorly where it passes between posterior eyes and ends abruptly before reaching eyes of second row. Sternum black and the coxae of legs beneath dusky and probably also black when in full color. Legs brown, darker distally and paler beneath, not annulate, or posterior tibiae and metatarsi vaguely so, the fourth tibiae being dark at distal end. Abdomen above with a median series of wedge-shaped marks with apices forward, of which the basal one is much largest and all of which may be connected with each other; a black spot on each anterior corner followed behind by a series of angular marks or these also united into a more or less continuous band. Entire venter, both in front of and behind genital furrow, black. In the palpus the scopus in the more

usual lateral position; embolus more strongly curved than in the preceding species.

Length, 13 mm.; cephalothorax, 7.8 mm.; tibia + patella I, 10 mm.; tibia + patella IV, 10 mm.

TYPE.—M. C. Z. 1,310.

LOCALITY.—Yucatan: Chichen Itza. One adult male and one male not quite adult.

#### LYCOSA MAYA, sp. nov.

♀. Carapace seen under alcohol showing a median longitudinal light stripe narrowing to a point down the posterior declivity and anteriorly widening and enclosing the eye-area beyond which it extends on both sides, its edges uneven; sides brown. Sternum and coxae of legs dusky brown. Legs light brown, darker distally, without distinct annuli excepting the posterior tibiae which have a dark ring at each end, and the posterior metatarsi. Abdomen brown above, with a black spot on each anterior corner, a dark basal spear-mark in outline, this blunt behind and the line more or less broken; small black dots over entire surface; venter solid black behind genital furrow, the spinnerets yellow. Guide of epigynum anchor-shaped, the median piece moderately dilated anteriorly and the cross-piece long, as long as the median septum measured to caudal edge, bowed up at ends.

♂. Color as in the female. In the palpus the scopus is small and lies more near the center of the bulb than usual; embolus slender and evenly curving behind (above) and distad of scopus.

Length of female, 12 mm.; cephalothorax, 7 mm.; tibia + patella IV, 7.2 mm.

TYPE.—M. C. Z. 1,311.

LOCALITY.—Yucatan: Chichen Itza. One female (holotype) and one male (allotype).

#### LYCOSA GOSOGA, sp. nov.

*Lycosa nidifex* Chamberlin (not of Marx), Can. ent., Jan., 1910, **42**, p. 17, fig 3, 4.

♀. Belonging to the Geolycosa group. It is like *fatifera* in having no light bands on the carapace, the tegument of which is chestnut in color and is clothed with grayish hair, or mostly such. Sternum and coxae of legs yellow. Legs brown, the femora lighter beneath excepting that the patella, tibia, tarsus, and metatarsus of legs I and II are black beneath. The abdomen is gray above, with a vague basal spear-mark. Venter unmarked. The epigynum is in general similar to that of *L. arenicola* but presents a distinct convexity at middle of posterior margin of guide instead of having this margin evenly rounded and less convex; the anterior end of septal piece is slightly bent.

TYPE.—M. C. Z. 1,313.

LOCALITY.—California, Los Angeles. One female. The specimens furnishing the basis of the description (Can. ent., 42, p. 17) were noted as probably from Arizona or southern California and are in the American Museum of Natural History.

SCHIZOCOSA DUPLEX, sp. nov.

♂. Carapace dark brown on the sides, a wide median dorsal yellowish stripe extending forward between eyes of third row and a light supramarginal stripe on each side. Sternum and coxae of legs yellow. Legs brown, without annuli, the femora, patellae, and tibiae of first pair darkened, but with no brush of dark hair. Abdomen yellowish in a broad band down the middle, black at sides; the light area enclosing a basal mark in outline followed by several chevron-shaped dark lines. Venter light except for a few dark dots. The palpal organ is of the *ocreata* type but the anterior horn is very short, scarcely surpassing the anterior edge of the alveolus, and it presents various differences in other details.

Length, 6 mm.

TYPE.—M. C. Z. 1,314.

LOCALITY.—Virginia: Fairfax. Three males.

Easily distinguished from males of *ocreata* and *bilineata* in lacking the characteristic brush on anterior tibiae and from *saltatrix* in the form of the palpal organ.

SCHIZOCOSA PUEBLA, sp. nov.

♂. The general coloration as in the preceding species. No brush on anterior tibiae. It is clearly distinct from *duplex* and the other known species in the details of the palpal organ. In this the anterior lobe lacks the horn-like development present in *ocreata* and less developed in *duplex*, presenting instead a fold similar to that of *saltatrix* but with the rugose area of the lobe much more extensive; the scopus is conspicuously different from that in *saltatrix*, being in the form of a transverse ridge with a stout spur at mesal end and a process at ectal end that extends dorsodistad over the ectal fold.

Length, 8 mm.

TYPE.—M. C. Z. 1,316

LOCALITY.—New Mexico: Albuquerque. One male.

PARDOSA YAVAPA, sp. nov.

♀. With the more usual markings on carapace and dorsum of abdomen. Sternum black. Venter of abdomen immaculate. Legs annulate. The

species is characterized by the form of the epigynum. This is comparatively short and broad, the general form and proportions being much as in *utahensis* Chamberlin. The general epigynal area is hexagonal with width between the two lateral angles, which are somewhat extended into shoulders, greater than the length; behind anterior margin is a short, transverse chitinous rim and behind this are two oblique chitinous folds meeting in an angle on middle line; just within this angle is the short septum of the guide, this expanding abruptly behind into a spade-like terminal plate shaped something like the corresponding part in *Lycosa gulosa*.

Length, 5.2 mm.

TYPE.—M. C. Z. 1,317.

LOCALITY.—Arizona: Yavapai Co. One female from stomach of toad.

#### SALTICIDAE.

##### MYRMARACHNE TAYABASANUS, sp. nov.

In general structure and appearance suggesting *M. bellicosus* (Peckham), known from Luzon Island, but distinguishable in numerous features. The chelicerae are shorter and are more evenly, less clavately enlarged distad. The mesal surface of chelicera flattened and meeting the dorsal surface at right angles; dorsal surface roughened, more granulose and less rugose than in *bellicosus*. The posterior surface of the pars cephalica is more nearly vertical than in the other species and the constriction behind it deeper. While the general color in *bellicosus* is deep brown, it is black in the present form. White hairs form a band across clypeus and extend about the eyes. Abdomen black above; venter pale, the light color rising higher on the sides in an angle near the middle, but less so than in *bellicosus*. Femora of all legs black, a feature at once distinguishing this from the other form. The more distal joints of first legs also black. Joints distad of femur in second legs yellowish, but patella and tibia with a black stripe along each side. In the third legs the patella and tibia are black or very dusky, the metatarsus with a black stripe along each side. In the fourth legs the patella is black, the tibia a little lighter, dusky, the metatarsus again black and the tarsus annulate at least at base.

Length, exclusive of chelicerae, 5.6 mm.

TYPE.—M. C. Z. 1,000.

LOCALITY.—Philippines: Tayabas Island. One adult male, and one immature male.

##### SIMONELLA SIMPLEX, sp. nov.

♀. Head yellow, the carapace otherwise a somewhat dusky brown; a narrow black stripe between eye of second and corresponding eye of fourth row on each side, this stripe interrupted behind the third eye. Sternum brown.

Palpi and legs I and II yellow, or the femora a little darkened. Coxa, trochanter and femur of leg III dusky brown or blackish, the distal joints yellow. Leg IV with femur and tibia blackish, the proximal and distal joints yellow. Dorsum and sides of abdomen dark, nearly black in front of the depression; similarly colored back of the depression, the posterior dark area extending in a median dorsal angle to the anterior dark area; yellow between the two dark areas; posterior dark area enclosing a pale chevron mark in its anterior portion and two more obscure paired pale marks behind this. Venter yellow behind genital furrow, brownish in front of it. The epigynum in general form similar to that of *S. decipiens* Cambridge but the plate is somewhat broadly produced behind at middle above the cavity though not so much so as in *S. bicolor*, and the process is emarginate at the middle.

Length, 5.6 mm.

TYPE.—M. C. Z. 1,318.

LOCALITY.—Guatemala: Los Amates. One female.

#### SAITIS CANALIS, sp. nov.

♂. The tegument of the carapace is dusky brown behind, with the eye-region black and showing purple and green reflections. The hair of the thoracic region yellowish gray; eye-region above rubbed bare in type, but toward eyes of second row with flattened appressed hairs or scales of a green color and in some lights showing violet reflections; a band of similar green scales down face to between anterior median eyes. Clypeus densely clothed with yellowish gray hair. Patella, tibia, and tarsus of palpus above with greenish scales, and similar scales also present on the legs. First and second legs with femur, patella, tibia, and metatarsus clothed with conspicuously long black hair, this especially developed on the femora dorsally and on tibiae ventrally. The abdomen blackish above with a median dorsal light stripe ending in a point behind some distance in front of spinnerets, this light stripe densely clothed with light yellowish gray hair. Tibial apophysis of palpus simple, pointed, slightly curved; stylus at distal end toward inner side of bulb, short and simple, but little sinuate.

Length, 4 mm.

TYPE.—M. C. Z. 1,319.

LOCALITY.—Barro Colorado Island. W. C. Allee. One male.

#### DENDRYPHANTES VIRGINIS, sp. nov.

♂. This species is close to *D. flavipedes* Peckhams and has probably been confused with it in considerable measure. As in *flavipedes* the embolus in the male palpus is furcate, presenting two branches distad; of these branches the outer one is longer and more slender and is curved beyond apex of the inner,

stouter and straighter process. In the present species the outer, curved process is much more slender and almost bristle-like and by this character it may be distinguished at once from the northern *D. flavipedes*. This species is apparently the form from Lakehurst, N. J., referred by Emerton doubtfully to *flavipedes* in Bull. Amer. mus. nat. hist., 1913, 32, p. 259, pl. 45, fig. 10.

TYPE.—M. C. Z. 1,320.

LOCALITIES.—Maryland; D.C.; Virginia; North Carolina; New Jersey.

As the males from all these places agree fully in the characteristic above noted, there seems no room for doubt that they represent a species distinct from *flavipedes*.

#### DENDRYPHANTES ATOPODON, sp. nov.

♂. Tegument of carapace chestnut, the eyes on black, clothed principally with long white scales. Sternum chestnut. Femora of legs black except proximally where yellow. Patellae and tibiae of all legs also solid black except that patellae tend to be more or less yellow proximally and the tibia in an incomplete median annulus and somewhat along dorsal surface. Metatarsus I black except in a proximal ring, II and III dark at ends and IV along sides, otherwise yellow like the tarsi. Patella, tibia, and tarsus of the palpus black. Dorsum of abdomen with a band of white hair across each antero-lateral corner and back on each side to near spinnerets. The species is characterized by having a single laminate tooth somewhat concave at distal end on lower margin of chelicera. Tibia I with three pairs of spines beneath, metatarsus I with two pairs beneath and none on sides. The palpal organ suggests that of *D. capitatus*, the terminal process of bulb being of much the same form.

Length, 3 mm.

TYPE.—M. C. Z. 1,325.

LOCALITY.—Virginia: Scott's Run, July. One adult male and two immature females.

This species is undoubtedly closely related to *D. capitatus*. The latter, however, is a larger form in which the anterior process of the palpal organ has its ectal branch decidedly longer and more curved. The tooth of chelicera in *capitatus* is also flattened and approaches the form shown in the present species.



## SOLPUGIDA.

## SOLPUGIDAE.

## SOLPUGA MATABELENA, sp. nov.

Color in dried specimen mostly uniform light brown or yellowish, dorsal plates of abdomen darker, and fingers of chelicerae chestnut proximally and black distally. Malleoli uniform brown. Upper finger of chelicera with a single small tooth between the two principal teeth, this contiguous with base of the caudal principal tooth, the two principal teeth not widely separated. Metatarsus of leg II dorsally with only the series of usual short spines. Metatarsus of palpus with numerous stout setae below, this of ordinary form and color. Metatarsus III with five spines in the dorsal series, the third of these but slightly beyond middle. Tarsus IV with seven segments which taken together nearly equal the metatarsus in length. Cephalothorax a little wider than length of tibia of palpus.

Length, about 45 mm.

TYPE.—M. C. Z. 1,326.

LOCALITY.—Africa: Matabele Land. One specimen.

Suggests the South African *S. venator* Pocock, but may be distinguished in having the cephalothorax wider than length of tibia of palpus and the third spine of metatarsus III at middle instead of notably distad of it.

## AMMOTRECHA PSEUSTES, sp. nov.

Chelicerae lemon-yellow, the fingers brownish. Cephalothorax a darker, more orange-yellow. Eye-tubercle black, divided by a pale, though in part somewhat obscure, median paler line. The abdomen has a median longitudinal pale stripe as in *stolli* Pocock and *tabogana* Chamberlin, this bordered on each side with a series of chocolate-brown spots; sides darkened, of violaceous cast; venter paler. Femur of palpi dark except at proximal end; tibia, metatarsus, and tarsus dark throughout excepting apex of tarsus. First legs yellow throughout or the femur, tibia and metatarsus slightly smoky or violaceous. Second legs similar in color to the first but the violaceous tinge of the joints mentioned somewhat more pronounced. In the third and fourth legs the femur is dark above and laterally and the tibia and metatarsus are darkened excepting at the distal end. Eyes three fourths their diameter apart. Anterior margin of eye-tubercle with two longer setae borne on tubercles and several shorter hairs. Metatarsus of palpus bearing on each ventral edge a series of three smooth, short, cylindrical spines resembling the cylindrical setae except in being stouter; cylindrical setae not numerous. A few cylindri-



cal setae on ventral surface of tibia. Upper finger of chelicera with three large teeth beyond the proximal small ones; between the first and second of these large teeth a small one. A single small tooth between the two large teeth of the movable finger.

Length, exclusive of chelicerae, 13 mm.

TYPE.—M. C. Z. 1,327.

LOCALITY.—Canal Zone: Remo Island, Largo. 31 August, 1923. Zetek and Molino in nest of the termite *Kaloterms marginipennis* (Latreille), "acting like the soldiers."

This species is related to *A. stoll*i Pocock and *A. tabogana* Chamberlin, but may be distinguished readily in having only three small spines in each series on ventral surface of metatarsus of palpus.

#### EREMOBATES TEJONUS, sp. nov.

♂. Dorsal finger of chelicera without teeth, but with a continuous ventral edge which is convexly rounded distad of middle where finger narrows and is a little curved; dorsal edge of this finger a little incurved near middle. The movable finger of chelicera has near proximal fourth of length a single large tooth and near middle a large but broad and low obtuse swelling or tooth between which and the principal tooth is a denticle, the latter free from base of large tooth; ventral edge notched or indented near beginning of distal third. On the surface between fingers of chelicera are four stout teeth; the two uppermost of these equal and in a transverse line, and the other two in line below the outer of these, the lowest tooth smaller than the others and the middle one stouter than the two upper ones.

Length, about 10 mm.

TYPE.—M. C. Z. 1,328.

LOCALITY.—California: Fort Tejon. One male from stomach of toad.

### PSEUDOSCORPIONIDA.

#### CHELIFERIDAE.

##### CHELODAMUS, gen. nov.

Fingers of palpi with accessory teeth. Palpi rather slender, approaching the Chelifer type; femur clavate, widest toward distal end; tibia with a narrow neck proximally beyond which it widens suddenly and is then of nearly uniform width to distal end, not at all subfusiform as in typical Chelanops; chela long and slender, the fingers slender and gaping. Flagellum of three setae, of the usual Chelifer type. Carapace as wide as or wider than long; with two

deep transverse furrows; eye-spots absent or obscure. Legs in general as in *Chelanops*; claws smooth. Abdomen broad and flattened; tergites not divided at median line but with a broad, paler, less strongly chitinized longitudinal band across all but the eleventh tergite, this band a little depressed. A somewhat similar band along venter.

GENOTYPE.—*Chelodamus atopus*, sp. nov.

In addition to the two species described as new, the genus also includes *Chelifier mirabilis* Banks.

#### CHELODAMUS ATOPUS, sp. nov.

♂. The flagellum consists of three hairs of which the proximal two are simple and pointed, the first being shortest, the second intermediate in length; the distal seta is broader and longer, pointed and curved distally, and is dentate along anterior margin. Spinneret slender, acuminate, with four short processes or branches along the abaxial margin, one of which processes is bifid nearly to its base. Claws of leg IV wholly smooth. Carapace of same width across caudal border as long; narrowing forward from caudal end, more strongly so in front of the anterior groove, rounding in to outer edges of chelicerae between which the margin is nearly straight. The two transverse furrows deep and conspicuous, the anterior one bowed forward at middle, half way between ends of carapace. Surface densely finely granular. A paler area or eye-spot on border just ectad of base of each chelicera, the area flattened and no lens defined. Abdomen elliptic in outline, widest at sixth segment, a little more than one and two fifths times longer than the greatest width. Surface densely finely granular. Setae in the row along posterior border eighteen to twenty in number. Endites smooth. Trochanter of palpus strongly pedicellate, three fourths as thick as long. Femur narrow at proximal end from where, as seen from above, it widens gradually to distal end as usual in *Chelifier*; the joint four times longer than thick. Tibia with a rather long, somewhat pedicellate, proximal stalk beyond which it widens strongly and subelavately to middle and then narrows a little to distal end; three times longer than thick; shorter than the femur. Chela as a whole decidedly longer than the femur or tibia, its hand alone being equal to or slightly longer than the tibia. Hand 2.9 times longer than thick. Fingers slender and curved, shorter than the hand. Accessory teeth present on both fingers; on the movable finger there are, in the female allotype, twelve accessory teeth in the outer series and five stouter ones in the inner series.

Length, 4.54 mm. Carapace 1.45 mm. long, of equal breadth. Abdomen 3 mm. long by 2.18 mm. wide. Trochanter of palpus .81 × .58 mm.; femur, 1.9 × .41 mm.; tibia 1.7 × .54 mm.; chela as whole 2.9 mm. × .58 mm.; hand, 1.7 mm. long.

TYPE.—M. C. Z. 1,329.

LOCALITY.—Costa Rica.

## CHELODAMUS MEXICOLENS, sp. nov.

♂. Twenty-one teeth in exterior serrula of chelicera. Spinneret (galea) in type with tip broken off but showing three exterior processes on the part remaining; of these the most proximal is much nearer the base than is the corresponding one in *atopus*; the second process from base simple, not bifid as in *atopus*. The anterior seta of flagellum fimbriate practically to the tip whereas in *atopus* there is a considerable length at tip that has margin smooth, this smooth portion being notably curved. Accessory teeth on inner side of movable finger of chela eleven in number; of these the five most proximal ones are closer together than are the more distal ones. Accessory teeth of exterior series on the same finger smaller, evenly spaced, and thirteen in number. Carapace in general form and appearance as in *atopus*, but a little broader at base in proportion to length (9.8). Surface densely finely granular. Eye-spots obscure. Abdomen more badly elliptic, the width at sixth segment being to length as 29:33. Palpi in general similar in form to those of the genotype but with differences in details; *e.g.*, the tibia is straight distally instead of being a little incurved distally as viewed from above and thus as a whole appearing to have a weakly sigmoidal outline.

Total length, 4.43 mm. Cephalothorax 1.45 mm. long by 1.63 mm. wide at base. Abdomen 3 mm.  $\times$  1.63 mm. Trochanter of palpus .76  $\times$  .47 mm. Femur 1.7  $\times$  .43 mm. Tibia 1.45  $\times$  .43 mm. Chela 2.77 mm. long; hand 1.49  $\times$  .54 mm.; finger 1.37 mm. long by .23 mm. thick at base.

TYPE.—M. C. Z. 1,330.

LOCALITY.—Mexico: Guadalajara.

## CHELANOPS CONSOCIUS, sp. nov.

♂. Two distinct white eye spots at anterior margin, the lens-area scarcely convex, granular. Surface of carapace in general smooth; setae sparse, a definite transverse series of them on caudal border. Carapace crossed by two furrows of which the posterior one is long and gently recurved; the anterior one is very short and is also weakly recurved. Carapace very nearly as wide across base as the length. Abdomen oblong, somewhat broader at base than at middle or posterior end and longer than wide at base in ration 22:13. Tergites all longitudinally divided. The usual series of setae across posterior border of each tergite, these acuminate and finely pointed, not at all clavate, about twenty on first tergite, fewer in an irregular anterior series. In the chelicera the spinneret is a short simple papilla greatly exceeded by the terminal hair as well as by the apex of the finger. In the pedipalpus the endite is roughly triangular, with lateral angle rounded, surface smooth. Other joints with a few apparently bacillar hairs but most hairs pointed and none clavate. Trochanter and femur pedicellate, the joints beyond pedicel abruptly and

strongly thickened. Tibia broadly subfusiform but more strongly narrowed at base where it is somewhat pedicellate. The chela as a whole is a little over two and two fifths times its greatest width; the fingers short and thick, shorter than the hand (22:49). Palpi much longer than body. Tactile hair on tarsus IV about one fifth length from base.

Length 2.33 mm. Cephalothorax 1 mm. long, .9 mm. wide. Abdomen 1.33 mm. long by .9 mm. wide at base. Trochanter of palpus  $.5 \times .3$  mm.; femur,  $.83 \times .43$  mm.; tibia,  $.9 \times .43$  mm.; chela  $1.6 \text{ mm.} \times .66 \text{ mm.}$ ; the fingers .73 mm. long, the movable one only four times longer than thick and the immovable one still thicker. Femur IV,  $.83 \times .33$  mm.; tibia  $.66 \times .18$  mm.; tarsus  $.48 \times .11$  mm.

TYPE.—M. C. Z. 1,331.

LOCALITY.—Barro Colorado Island. In a log with *Amitermes beaumonti* (Banks) and *Nasutitermes conigera* (Motschulsky). Zetek and Molino. One male.

#### OLPIUM ISOLATUM, sp. nov.

♀. Carapace but little longer than wide (9:8); with a transverse band, which is not conspicuous, about one third the length from caudal edge; widest at level of this band, from where gently narrowed forward to eyes and back to caudal end; anterior eyes removed from front margin by about their diameter; width across anterior end to greatest width about as 1:2. Abdomen long; widest near middle of length and narrowing toward both ends; tergites in length corresponding to this form, being longest at middle of abdomen, the longest being to the first one as 50:33, none divided. Chelicerae with spinneret (galea) long, translucent, divided distally into three slender branches. Trochanter of palpus strongly widening above a narrow base, four fifths as wide as long; femur subpedicellate, rapidly widening above a narrow base, but of uniform thickness over most of the length, 2.6 times longer than thick; tibia with the usual narrow basal part, clearly thicker than femur, moderately narrowed from middle to distal end; chela, when viewed at right angles to its broadest surface, with sides of hand nearly parallel; hand longer than wide (3:2) and longer than fingers (15:11).

Length, 2.76 mm. Cephalothorax  $.6 \times .53$  mm. Abdomen  $2.16 \times 1$  mm. Trochanter of palpus,  $.25 \times .2$  mm.; femur,  $.56 \times .21$  mm.; tibia  $.56 \times .26$  mm.; chela  $.96 \times .35$  mm., its hand  $.5 \times .35$  mm., the fingers .36 mm. long.

TYPE.—M. C. Z. 1,332.

LOCALITY.—Canal Zone: Remo Island, Largo. Zetek and Molino. One female with *Kaloterme* sp. and *Prohrinoterme* sp.

The specimen had been allowed to dry and this may have somewhat altered some of the proportions.

## PHALANGIDA.

## COSMETIDAE.

## METERGINOIDES EUTYPA, sp. nov.

This, the second species referred to the genus, is separable from the genotype at a glance in its much longer legs and more pronounced coloring. The dorsum is a dark ferruginous brown, with a bright yellow band on each side of scutum which encloses some brown spots; the middle area with three longitudinal rows of yellow spots, those of the middle series being larger than the others. Legs appearing light brown, under the lens showing a fine net-work of dark lines and dots over a yellowish background. Venter ferruginous. Eye-tubercle broad, depressed, only slightly elevated above general level, smooth. All areas of dorsal scutum smooth. First joint of chelicera moderately enlarged, dorsally tuberculate especially at anterior and posterior ends. Joints of legs, in female, wholly smooth. Tarsus I in holotype with seven joints, II with seventeen, III with ten and IV with eleven.

Length, 7.5 mm.; femur IV, 10 mm.

TYPE.—M. C. Z. 1,333.

LOCALITY.—Barro Colorado Island. W. C. Allee. One female.

## KEVONONES, gen. nov.

Third and fourth legs stouter than those of the anterior pairs. Abdominal scutum wholly lacking paired tubercles or spines on any of its areas, the surface throughout covered with granules or small conical tubercles of uniform size. Free segments of abdomen with transverse series of small tubercles. Tarsus I composed of five articles, III and IV of six articles each.

GENOTYPE.—*Erginus mexicanus* Banks.

The types of *K. mexicanus* (M. C. Z. 1,354) were taken at San Jose del Cabo, Lower California.

## CYNORTA DISCRETA, sp. nov.

Body dorsally a dark chocolate-brown somewhat paler beneath. A yellowish white V-shaped mark at first dorsal sulcus; from this mark a line of the same color runs back on the mid-dorsal line to join the apex of a similarly colored delta-shaped outline behind tubercles of area III; a light line on each side also connects the anterior V-mark and the posterior delta, this lateral line sending out a short spur laterally near its caudal end. The legs are yellowish, the proximal joints with numerous black marks which on tibia and metatarsus are more clearly annuliform, the annuli not developed on a varying distal

portion of metatarsus. Eye-tubercle obviously wider from side to side than long anteroposteriorly; bearing several granules toward each eye. First abdominal area of dorsal scutum with the usual pair of rounded tubercles. Third area of scutum with two spines stout and conical, smooth. Tarsus I with six segments; II with twelve segments; III with eight; and IV with nine.

TYPE.—M. C. Z. 1,334.

LOCALITY.—Barro Colorado Island. W. C. Allee. Two females.

#### CYNORTA PLEURALIS, sp. nov.

Appearance and structure in general as in *discreta*, but a smaller form with relatively longer femur IV readily distinguishable by differences in the white markings of the dorsum. There is a net-work of white lines between the lateral longitudinal line on each side and the margin of the scutum and the line across caudal border is widely interrupted at the middle. The caudal side or base of the delta-formed outline is also slightly interrupted at the middle. The legs are marked similarly to those of *discreta* but in general are lighter. Spines of area III of abdominal scutum well separated, erect and acute. Tarsus I with six articles; II with twelve; III with eight; and IV with nine.

Length, 4 mm.; femur IV, 7 mm.

TYPE.—M. C. Z. 1,336.

LOCALITY.—Barro Colorado Island. W. C. Allee. One female.

#### CYNORTA DIDYMA, sp. nov.

A form closely resembling *C. discreta* and *C. pleuralis* in general appearance, but easily distinguishable by differences in the details of the pattern of white lines on the dorsum. There is no lateral net-work such as is present in *pleuralis*. The inner branch at anterior end of each arm of the anterior V is more slender than in that species; the lateral longitudinal line just before uniting with the V forms almost a right angle and sends forward a short spur from the angle; the lateral line is more sinuous than in *pleuralis* and the lateral spur from its caudal end extends all the way to the margin of the scutum; and there are other differences in lesser details of the pattern. Legs as in the other species. Tarsus I with six articles; II with fifteen; III with eight; and IV with ten.

Length, 4.5 mm.; femur IV, 7 mm.

TYPE.—M. C. Z. 1,337.

LOCALITY.—Barro Colorado Island. W. C. Allee. Two specimens.

#### CYNORTA CONFLUENS, sp. nov.

Body dark chocolate colored or blackish above, the cephalothoracic part somewhat lighter and the venter and coxae of legs somewhat ferruginous. The dorsal scutum with a wide V-shaped white mark at first sulcus, each arm of the



V breaking into a net-work each side of the eye-tubercle; a median longitudinal line of same color and one on each side as in *discreta* but these connected by three transverse lines in front of the tubercles of area III, behind which the median line does not extend; the lateral longitudinal lines also connected by a transverse line behind the tubercles; two light spurs running from posterior end of lateral line on each side ectad to margin of scutum; near caudal margin of scutum a transverse white line and a similar one may be seen on each of the first two free abdominal segments. Legs yellow with black dots and rings; tibia I annulate at base, II nearly to distal end, III to near middle, and IV well toward distal end; femora with numerous dark markings but these not arranged in distinct annuli; the tarsi more uniformly dark. Eye-tubercle low, somewhat depressed at middle, clearly wider than anteroposterior length, with a few granules toward each eye. Paired tubercles of first abdominal area of scutum inconspicuous. The conical spines of area III short and conical and confluent with each other at base and in this contrasting with the preceding species in which the spines are widely separated. Tarsus I with six articles, II with twelve or thirteen, III with eight or nine and IV also with eight or nine.

Length, 5 mm.; femur IV, 5.6 mm.

TYPE.—M. C. Z. 1,339.

LOCALITY.—Barro Colorado Island. W. C. Allee. Three females.

#### CYNORTA NANNOCORNUTA, sp. nov.

This species differs from the others here described in the greatly reduced spines of area II of the scutum, these being scarcely more than conical tubercles. The tubercles of area I present but also small. Eye-tubercle low and wide, depressed at the middle. Dorsum blackish, ferruginous in an area on each side and along each lateral border. Venter also more ferruginous. Legs with dark markings small and more obscure, and the annuli distinct only on the metatarsi. The white lines on dorsum form a pattern in outline somewhat like that of *confluens* but with the lateral longitudinal line on each side obliterated excepting at ends; the transverse line in front of spines of area III almost obliterated, broken into a series of spots; a spot on median line between spines representing the continuation of the median white line; a caudally directed spur from anterior end of each arm of the anterior V-mark; the latter the most heavily developed part of the pattern. Tarsus I with six articles; II with sixteen; III with eight; IV with nine or ten.

Length, 5 mm.; tibia IV, 6 mm.

TYPE.—M. C. Z. 1,341.

LOCALITY.—Barro Colorado Island. W. C. Allee. One specimen.

The posterior legs rather stouter than usual. The species suggests *Flirtea*; but in the absence of a male the question raised by its peculiarities cannot be settled.



## GONYLEPTIDAE.

## ZYGOPACHYLUS, gen. nov.

Eye-tumulus widely separated from anterior margin, wide and low, unarmed but bearing a few setigerous tubercles near each eye. Dorsal scutum obviously widest near third area but somewhat approaching the prostygnine type. Scutum crossed by five transverse furrows of which the first two are united by a median longitudinal sulcus. Area III of abdominal scutum bearing a pair of stout spines or horns, otherwise unarmed. The free segment of abdomen also with a pair of stout spines. First joint of chelicera with a narrow basal portion above which it is strongly clavately enlarged. Palpus shorter than the body; femur armed at apex within. Second joint of tarsus three-jointed. Tarsi I, III, and IV six-jointed.

GENOTYPE.—*Zygopachylus albomarginis*, sp. nov.

## ZYGOPACHYLUS ALBOMARGINIS, sp. nov.

Body and legs dark ferruginous, almost black except the marginal tubercles which are bright white, and the tips of the processes on area III. Eye-tumulus near middle of cephalothorax, much wider than long, low, unarmed except for several small tubercles toward each eye. A few widely separated, small, rounded tubercles on each abdominal area. Each lateral margin of dorsal scutum bearing a series of nearly contiguous, distally rounded, white tubercles of which the next to the most caudal, which is at end of area IV, greatly exceeds the others in size. Legs with minute setigerous granules, those of coxae beneath, as of abdomen, larger. Tarsus I with six joints, II with twelve and III and IV with six.

Length, 4 mm.; femur IV, 5 mm.

TYPE.—M. C. Z. 1,342.

LOCALITY.—Barro Colorado Island. One specimen.

## NESOPACHYLUS, gen. nov.

With a distinctly elevated eye-tumulus which typically bears a pair of ordinary setigerous tubercles like those elsewhere on body and legs, but with no true spinous processes. Dorsal scutum with five transverse furrows of which the first two are united by a median longitudinal furrow. Scutum abruptly widened, rounding out convexly, between the first and fourth furrows. None of the areas of the abdominal scutum bearing enlarged single or paired tubercles or spines, simply with transverse rows of uniform tubercles. First free abdominal segment unarmed, the second with a stout median process or spine. Femur of palpus not armed at apex within. Posterior legs much stouter than

the anterior ones. Tarsus I with five articles, III and IV each with six. Pseudonychium distinct, slender, the claws smooth.

GENOTYPE.—*Nesopachylus monoceros*, sp. nov.

*NESOPACHYLUS MONOCEROS*, sp. nov.

General color of body and legs dark ferruginous. Eye-tumulus separated from anterior margin of carapace by nearly its length; transversely broadly elliptic in outline; conspicuously elevated between the eyes and bearing apically the two setigerous tubercles, otherwise smooth. A conspicuous transverse sulcus in front of eye-tumulus setting off anterior border of carapace. A stout tubercle or short ridge at margin laterad from eye-tumulus on each side. A submarginal depression setting off the border on each side of abdominal scutum, each border bearing a longitudinal series of tubercles posteriorly. Each area of abdominal scutum with a transverse series of setigerous tubercles. First two free abdominal segments with a similar series of setigerous tubercles but these rather larger and on the second one the median tubercle is greatly enlarged and elongate. On the third free segment the median tubercle is also enlarged but is rounded, not elongate or spiniform. Venter with numerous setigerous tubercles. Legs with all joints excepting tarsi bearing setigerous tubercles similar to those of body. Palpi much shorter than body; femur with a series of setigerous tubercles along ventral line but with no spines; tibia ventrally along inner edge with two long and two short spinous processes and with two along outer edge, the following joint with two processes on each edge.

Length, 10 mm.; femur IV, 5 mm.; femur II same length as femur IV. TYPE.—M. C. Z. 1,343.

LOCALITY.—Barro Colorado Island. Three males.

PHALANGODIDAE.

*ETHOBUNUS*, gen. nov.

Eyes elevated on a common tumulus which is distinctly removed from anterior margin of cephalothorax and bears near each eye an erect conical tubercle. Dorsal scutum with five transverse furrows. Areas I and II of abdominal portion of scutum each bearing a pair of widely separated conical processes. First two free segments of abdomen unarmed, the third with a pair of processes similar to those of the scutum. First joint of chelicerae slender proximally, at distal end abruptly thickened and elevated. Femur, patella, tibia, and tarsus of palpus armed. Legs slender and of moderate length. Second tarsus of leg I two-jointed; of III three-jointed. Third and fourth tarsi without pseudonychium and scopula.

GENOTYPE.—*Ethobunus simplex*, sp. nov.

## ETHOBUNUS SIMPLEX, sp. nov.

Body dusky ferruginous; the legs similarly colored, somewhat lighter distally. Scutum widening from level of first furrow to that of second, then of uniform width to caudal end, or widening a little. Surface of scutum granular but without enlarged tubercles excepting the large paired ones and a few smaller ones on lateral margin. Femur of legs I and II with a few setigerous granules, the surface being very small, the granules on other legs obsolete. Coxa of palpus with a longer and a short tubercle below; femur with two low spinous processes below toward base and a shorter tubercle farther distad, patella with one spine below; tibia with two spines below at outer edge and two at inner; tarsus also with two spines on each edge. Tarsus I with three joints, II with eight, III with five and IV with six.

Length, 3 mm.; femur IV, 4 mm.

TYPE.—M. C. Z. 1,345.

LOCALITY.—Barro Colorado Island. One specimen. W. C. Allee.

## ZYGOBUNUS, gen. nov.

No common eye-tumulus whatsoever; the eyes not elevated, widely separated from each other and from the front margin, directed laterad; no processes between eyes. Dorsal scutum with four transverse furrows of which the third and fourth are deepest, the second in particular appearing typically weak and not connected with the first by a median longitudinal sulcus. Cephalothorax narrowest behind eyes from where the scutum widens moderately to the caudal corners. None of the dorsal areas of scutum and neither free abdominal segments nor the anal plate armed with spines or processes. Coxa IV much longer and thicker than III, widely visible from above. First joint of chelicera very long, much more slender than the second. Palpi longer than body; femur unarmed; the tibia and tarsus with spinous processes on ventral margins. First, second, and fourth tarsi more than six-jointed; tarsus III six-jointed. Tarsal claws wholly smooth.

GENOTYPE.—*Zygobunus barronus*, sp. nov.

## ZYGOBUNUS BARRONUS, sp. nov.

Body above dusky or blackish over ferruginous, paler beneath, the free segments of abdomen darkest. Legs dusky over yellowish, paler distally. Eyes nearly twice as far from each other as from the nearest part of anterior margin and farther from each other than from the lateral margin on each side, each on a black base. Surface of dorsum in general densely covered with granules most of which bear short, caudally directed setae; the free segments of abdomen similarly clothed. First joint of mandibles bearing on sides more ele-

vated, teeth-like tubercles which are more numerous on outer side; on dorsal surface several tubercles proximally, one at distal end, and at middle a much longer, horn-like process. Second joint of mandible with numerous smaller setigerous granules or low tubercles. Coxae of palpi long, bearing tubercles on inner surface, particularly along upper margin similar to those of first joint of mandible but smaller; second joint with an elevated tubercle dorsally and three smaller ones in middle line below; femur with four large tubercles on median line toward base below. Coxa IV stouter than the first three; all densely covered with setigerous tubercles like those of dorsum. Other joints of legs proximad of metatarsus bearing numerous setigerous granules. Legs short. Tarsus I with seven joints; II with twelve; III with six; and IV with seven.

Length, 5 mm.; femur IV, 3.2 mm.

TYPE.—M. C. Z. 1,346.

LOCALITY.—Barro Colorado Island. W. C. Allee. One specimen.

#### PHALANGHIDAE.

##### PROTOLOPHUS DIXIENSIS, sp. nov.

♀. Resembles *singularis* in having the paired dorsal humps of the abdomen bearing several teeth. It is a somewhat smaller form than that species with longer and more slender legs and may be easily distinguished by its lighter more grayish coloration and particularly by its conspicuously mottled and annulate legs, the legs of *singularis* being uniform and dark or at most with longitudinal lines but not at all mottled. Abdomen mottled with numerous partly confluent whitish spots, these forming a distinctly lighter transverse band behind the last pair of humps. The venter of abdomen with light markings at sides. Coxae uniform gray, not spotted. Femur of palpus with white marks at distal end, the patella with such marks above, and the tibia at base and at distal end; tip of tarsus black. Inner apophysis of patella of palpus long and straight, more densely setose at distal end where it is dusky; the tibial apophysis short and rounded, also densely setose and dusky. Femur of palpus with conspicuous spinous points below; patella with few; tibia with a few below, mostly proximally; tarsus with none. Tibia II has three false sutures, or also a fourth indistinct one.

♂. Smaller and lighter than the female, but the color and color-markings similar. The dorsal abdominal humps similarly spiniferous. It differs from other known species conspicuously in the form of the palpus. The apophysis of the patella is present as in the female but is scarcely longer than thick and the tibial apophysis is a simple rounded protuberance. The tibia is thickened and presents a low swelling ventrally proximad of middle and over the mesal side of and distad of this swelling the joint is densely hairy, the hairs being very short. The tarsus of palpus has two longitudinal series of spinous points

on its ventral side and the preceding joints are also armed with stout, non-seriate points.

Length of female, 7 mm.; femur I, 4 mm.; II, 6.5 mm.; IV, 5.8 mm.

Length of male, 5.3 mm.; femur I, 3.5 mm.; femur II, 6 mm.; femur IV, 5.8 mm.

TYPE.—M. C. Z. 1,347.

LOCALITY.—Utah: Washington Co., Zion National Park. May, 1924.

This species stands apart from the two previously known in having tibia II with three or four false joints instead of 1 or 0, in not having the chelicerae of male specially enlarged, and in the form of the male palpus as above noted.

#### PRIONOSTEMMA DUPLEX, sp. nov.

Body elliptic in outline, pointed behind, strongly convexly elevated above. Body prevailing brown or blackish brown behind middle where crossed by a white stripe in front of which the color is much lighter to anterior end, though this anterior region has some brown markings; the posterior half may embrace some light spots. Proximal joints of palpus brownish, the tarsus yellow. Chelicerae yellow. Venter and coxae of legs yellow. Legs in general dark brown; tibia II whitish at distal end, and metatarsus II whitish at the adjacent proximal end. Tarsus palpus obviously longer than tibia plus patella; patella at distal end on inner side with a short, rounded apophysis; femur with spinous points at distal end above, the dorsal surface proximally smooth or nearly so, but the points numerous over ventral surface; tibia and patella with numerous spinous points above as well as below. Eye-tubercle smooth, strongly constricted at base, with a median longitudinal furrow between eyes.

Length, 4.8 mm.; femur I, 10.5 mm.; femur II, 18 mm.; femur IV, 13 mm. Length of leg I, 45 mm.; of leg II, 92 mm.

TYPE.—M. C. Z. 1,349.

LOCALITY.—Barro Colorado Island. Sixteen specimens. W. C. Allee.

#### PRIONOSTEMMA SIMPLEX, sp. nov.

Most of the dorsum is light, mottled with brown, the last few abdominal segments darker, blackish, but no abrupt separation between an anterior light and a posterior dark region. Yellowish below, but the coxae with weakly brownish areas, especially distally. Legs dark brown. Tibia of second legs white at distal end. Chelicerae yellow on distal half, brown proximally; femur and patella brown with yellow areas below and at tip. Tarsus of palpus

longer than tibia plus patella; patella with a long, finger-like apophysis within at distal end, in this contrasting obviously with *duplex*; joints clothed with ordinary short setae but without any truly spinous points. Eye-tubercle smooth, constricted at base.

Length, 3.25 mm.; femur I, 6 mm.; femur II, 13 mm.; femur IV, 8 mm.

TYPE.—M. C. Z. 1,351.

LOCALITY.—Barro Colorado Island. W. C. Allee. Three specimens.

A somewhat smaller form than *duplex* with shorter legs and at once distinguishable from that species by the presence of the finger-like apophysis on the patella.